

## DISTRIBUTION RECORDS OF TWO AMERICAN SPECIES OF *CISSITES* (Coleoptera-Meloidae)

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Van Emden (1943) and MacSwain (1956) among others consider the Meloid genera *Horia* Fab. and *Cissites* Latr. to constitute a distinct subfamily, the Horiinae, based on the morphology of the larvae. Various other systematists have regarded this group as a remarkably distinct section of the Nemognathinae (= Zonitinae auctt.). Be that as it may, the biologies of these genera are very incompletely known and the desirability of more knowledge of distribution seems evident as a necessary prerequisite for further study and clarification of the phylogeny.

The genus *Horia* apparently does not occur in America. Of the genus *Cissites* only two species seem to occur in the more tropical parts of America, although some authors (as is the European custom) have given names to certain color variants of one of the species. The two species are *C. maculata* (Swederus) and *C. auriculata* (Champion). Individuals of both species, although variable, are relatively large meloids (length 10-30 mm.) living in the larval stages at the expense of xylocopid bees. Adults of these two species may be distinguished by the following key:

Anterior angles of pronotum rounded, sloping downward; head wider than front of pronotum .....	<b>auriculata</b>
Anterior angles of pronotum produced and curved upward; pronotum as wide or wider than head .....	<b>maculata</b>

In addition the males are easily separated by the length of the antennae. In *maculata* they extend only to the anterior angles of the pronotum while in *auriculata* they extend well beyond the posterior margin of the pronotum.

In *maculata* the more typical color form has broad black basal and apical elytral spots as well as two additional rows of transverse spots (coalesced in some specimens) approximately equally dividing the elytra into three yellow areas. A fairly common color variant, often taken together with the typical form, has only the basal and apical black spots. This form is known as *apicalis* Perty but, in my opinion, does not merit a name. The other variant is colored like the preceding but has, in addition, feeble vestiges of the intermediate rows of spots. Betrem (1932) has named this "*varietas intermedia*." It too does not merit a name in my opinion and occurs along with the other two forms. According to

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Champion (1892, p. 371) a form with totally black elytra occurs in Colombia, South America.

The adults are usually found on wood near the nests of the host bees and the larvae presumably are to be found in the galleries of the bees or on the bodies of the bees, attached to the hairs of the host much as in the manner in which nemognathine larvae attach to a host bee.

Through the courtesy and cooperation of the major entomological museums in the United States as well as numerous individual collectors, many specimens of nemognathines have been made available to me for study (*vide* Enns, 1956). Among these have been several specimens of *Cissites* which contribute to our knowledge of distribution but which, so far as I can discover, have not been published. It is the purpose of this paper to summarize these records. Acknowledgment is hereby gratefully extended to the following (abbreviations used are in parentheses after each): Los Angeles County Museum (L.A.); Snow Entomological Museum, University of Kansas (K.U.); California Academy of Sciences (Cal. Acad.); Carnegie Museum (C.M.); American Museum of Natural History (A.M.N.H.); Chicago Natural History Museum (C.N.H.M.); Entomology Museum, University of Missouri (M.U.); and Dr. Floyd G. Werner, University of Arizona (F.G.W.). Specimens in the writer's collection are initialed (W.R.E.).

The following synonymies are only partially complete but include the more critical ones.

### ***Cissites auriculata* (Champion)**

*Horia auriculata* Champion 1892, Biol. Centr.-Amer., 4(2):372; 1896, Trans. Ent. Soc. London, pt. 1, March, p. 52.

*Cissites auriculata*, Gahan, 1908, Ann. Mag. Nat. Hist., s. 8, v. 2, 201-203; Betrem, 1932, Treubia, XIV(1):85-102; MacSwain, 1956, Univ. Calif. Publ. Entom. 12:106-108.

### Distribution records:

**Mexico**—*Guerrero*: Acapulco, one male, 16 July 1930, L. J. Lipovsky (K.U.); one female, 7 March 1932, M. Willows, Jr., Templeton-Crocker Exped. 1932 (Cal. Acad.).  
—*Morelos*: Cuernavaca, one male, 22 July, E. G. Smyth (L.A.).

In addition, Betrem lists one female, Balzas, Guerrero; 2 females, Colima; 2 females, 2 males, Tehuacan, Puebla, Mexico and 8 males, one female, from Guatemala. Champion lists, in Mexico, Mazatlan, San Blas, Acapulco, Colima, Guadalajara, Almolonga, Tasco, and Oaxaca; in Guatemala, Cerro Zunil, San Isidro, San Geronimo, and also Costa Rica and Barbados, Antilles.

### ***Cissites maculata* (Swederus)**

*Cucujus maculatus* Swederus, 1787, Vetensk. Ac. nya Handl., 199, t.8, f.8.

*Horia maculata*, Latreille, 1802, Hist. nat. gen. et part. des Crust. et des Insectes, vol. 3, p. 182; Champion, 1892, Biol. Centr.-Amer., 4(2):371; 1896, Trans. Ent. Soc. London, pt. 1, March, p. 52; LeConte and Horn, 1883, Classif. Coleop. N. Amer., ed. 2, 417.

*Cissites maculata*, Latreille, 1804, *ibid.*, vol. 1, p. 154; Gahan, 1908, Ann. Mag. Nat. Hist., s. 8, v. 2, 201-203; Betrem, 1932, Treubia, XIV(1):85-102; Rau, 1933, Jungle Bees and Wasps of Barro Colorado Isl., p. 190.

#### Distribution records:

**United States**—Arizona: Yuma, 2 males, 1 female, May 21, H. Klages collection (C.M.).

**Mexico**—I have seen no specimens from Mexico but Champion (1892) records a specimen in the Sallé collection from Morelos, and Blackwelder (1945) includes "Mexico" in the distribution cited for this species.

**Guatemala**—Guatemala, 1 female, no data, H. Klages collection (C.M.); Mauricio, 1 female, 500 ft., no other data (M.U.); Panzos, 1 female, no other data, (F.G.W.).

**British Honduras**—San Antonio, 1 female, May, 1931, K. L. Maehler collection (Cal. Acad.).

**Costa Rica**—"La Fuente," 1 male, 20 Sept. 1930, A. Alfaro, 1200 ft., F. Psota collection (C.N.H.M.).

**Panama**—Barro Colorado Island, 1 (?). Aug. 16-Sept. 28, 1928 at light, P. Rau (U.S.N.M.?).

**Haiti**—Port-au-Prince, 1 female, 21-29 March, 1922, about 300 ft. alt., F4651A (A.M.N.H.).

**Galapagos Islands**—Indefatigable Island, 1 male, 17 November 1935, W. von Hagen, Acc. 34358 (A.M.N.H.).

**Argentina**—Concordia Prov., Etre. Rios, 1 male, 1 female, M. A. Cazier colln., Acc. 38903 (A.M.N.H.).

**Bolivia**—Chapare, Tropica Region, 1 male, 22 Oct., 1949, R. Zischka, 400 m. (F.G.W.); ditto, 1 female, 20 August 1949 (F.G.W.); ditto, 1 male, 25 August 1949 (F.G.W.).

**Brazil**—Corupa (Hansa Humbolt), Sta. Catharina, 1 female, A. Maller, December, 1945 (A.M.N.H.); Itaitubo, Para, 1 female, August, 1939. A. Maller (A.M.N.H.); Nova Teutonia, Sta. Catharina, 1 male, 17 November 1950, F. Plaumann (F.G.W.); Sud-Brazil, 1 female, no other data (F.G.W.); Minas, Passa Quatro, Faz. Dos Campos, 1 male, J. F. Zikan, F. Psota colln. (C.N.H.M.); Brazil, 1 male, F. Psota colln. (C.N.H.M.).

**Colombia**—Colombia, S. A., Felipe Ovalle, Q., 1 male, 1 female, Ac 33501 (A.M.N.H.); Hacienda Garcia, Cauca Valley, 1 male, 29 January 1935, Herbert F. Schwarz (A.M.N.H.); Rio Opon, La Lechera, 1 male, December, 1945, 500 m., at light in forest. L. Richter (A.M.N.H.).

**Ecuador**—Ecuador, 1 male, W. von Hagen, Acc. 33930, (A.M.N.H.); Santo Domingo, 2 females, 15 August 1936, W. von Hagen, Acc. 34758 (A.M.N.H.); Zatzayacu, Oriente, 1 male, 2 October 1934, W. Macintyre (W.R.E.); ditto, 1 female, 12 September 1934 (W.R.E.).

**Peru**—Iquitos, 1 male, 1 female, 16 April 1924, F6062, H. Bassler colln., Acc.

33591 (A.M.N.H.); ditto, 1 male, 6 June 1924 (A.M.N.H.); Peru-Brazil Frontier, 1 female, 30 January 1928, F6094, H. Bassler colln. (A.M.N.H.); Middle Rio Ucayali, 1 female, 6 December 1928 (A.M.N.H.); Chanchamayo, 1 female, F6032, Bassler colln. (A.M.N.H.); Iquitos, 1 male, 10 August 1928, Bassler colln. (A.M.N.H.); ditto, 1 female, 1927 (A.M.N.H.); Rio Santiago, 1 female, 2 November 1924, H. Bassler (A.M.N.H.).

**Venezuela**—Caripito, 1 male, 19 July 1942 (F.G.W.); Caracas, D. F., 1 male, 1938, G. Vivas B. (C.N.H.M.); Venezuela, 1 female, 1939, G. Vivas B. (C.N.H.M.); Caracas Valley, 1 male, 15 May 1921, L. R. Reynolds, F. Psota colln. (C.N.H.M.).

Champion (1896) also lists St. Vincent and the islands of San Domingo, Grande-Terre, Guadeloupe, and Barbados.

Two discrepancies seem immediately apparent, first the Arizona record for *C. maculata* and, second, the statements of Champion which indicate both species as occurring on Barbados. In my opinion the specimens labeled Arizona are mislabeled and in the second instance Champion was probably in error in assuming that *C. auriculata* occurs in Barbados. It seems probable that he never saw the specimens in question and was commenting on records or descriptions in the literature.

At any rate, this very poorly known group appears to be widely distributed. It should not be difficult, within the range of distribution, to study the biology of the species. It is interesting to note the occurrence of one of these species on the Galapagos Islands (See also Hurd, 1958).

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